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REGULAR PAPER

Infrastructure as techno-politics of differentiation: Socio-political effects of mega-infrastructures in Kenya

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Abstract

The Standard Gauge Railway (SGR) in Kenya, inaugurated in 2017, has been promoted by the Kenyan government as a promise of "development" and "prospering people." This paper demonstrates how, contrary to these narratives, the SGR reiterates the pre-existing relations of difference mediated by class, geography, and ethnicity. Focusing on material and semiotic forms of the SGR infrastructures, it specifically shows how the railway project functions as the techno-politics of differentiation that governs by including "prospering publics" of urban middle classes into Kenya's modernist development vision, providing unstable hopes for "development" to more precarious peri-urban and rural "anticipating populations," but simultaneously constituting "excluded populations" in rural landscapes that are denied the possibility of being a part of the national modernist development vision. Highlighting this intimate relationship between infrastructure, governance, and biopolitics, the paper demonstrates that mega-infrastructures – differentiating between the publics included in, and the populations excluded from, the state's development visions and practices, as well as unstable subjective dispositions in-between – engender modalities of non-belonging that fall outside of (inherently liberal) frames of "citizenship" or a "public" frequently employed in critical infrastructure scholarship.

KEYWORDS

differentiation, infrastructure, Kenya, mega-projects, techno-politics

1 | INTRODUCTION

On 1 June 2017 the Kenyan government celebrated the completion of Phase I of the Standard Gauge Railway (SGR) project. Funded with loans from EXIM (The Export-Import Bank of China), the project, for which construction started in October 2014, now connects the port of Mombasa, the biggest seaport in Kenya, with the capital city of Nairobi, from which the Phase IIA of the project goes 120 kilometres further north-west and reaches the town of Naivasha.[1] The SGR is a flagship project of the national development programme "Vision 2030" that, focusing on mega-projects, aims to transform Kenya into a newly industrialised country, overcome its aid dependencies, and achieve a "middle-income status" in less than two decades (see Enns, 2019). In this context, the Kenyan government has celebrated the SGR as a promise of greater connectivity and "development."

Boarding the SGR train, for instance, one can read a logo imprinted on all train coaches – "connecting nations, prospering people." It is on this promise of "prospering people" that I focus in this paper. The logo displayed on 67 coaches of the train that traverses the landscape from Mombasa to Nairobi four times daily highlights how the railway project, harbouring modernist dreams of "progress," is also meant to create "prospering publics" as a part of Kenya's development vision.

In geographical scholarship, infrastructures have been analysed as mediating relations of exchange over distance: they interconnect people, objects, and landscapes, thereby co-producing spaces through which modern socio-economic systems operate (Graham & Marvin, 1996, 2001). This structural role of infrastructures in aligning physical networks, social systems, and commodification processes has been explored in recent scholarship on mega-infrastructures that analyses their role in ordering capitalist expansion across the globe, particularly through urban infrastructures (Kanai & Schindler, 2018; Wiig & Silver, 2019). However, despite approaching infrastructure as a medium of social relations, geographical scholarship is just starting to pay sufficient attention to how infrastructures affect – subjugate, configure, or articulate – populations who use, live in, or around them. While the volume edited by Graham and McFarlane (2015), for instance, provides a conceptually diverse account of how infrastructures intersect with urban life, Fredericks (2018) and Lemanski (2019) explicitly focus on *citizenship*. Fredericks (2018) analyses how socio-political belonging, understood through the analytic of "garbage citizenship," is constituted through one's quotidian and political engagement with waste management infrastructures in urban Senegal. In a similar vein, the volume on "infrastructural citizenship" edited by Lemanski (2019) examines the material and civil nature of urban life for both the state and its citizens.

This entanglement of infrastructure with social lives, on the other hand, has been extensively explored in anthropological scholarship on the constitution of states' publics in relation to state-led infrastructural projects. For Harvey and Knox, "the 'public' itself also has to be conjured up as a material presence alongside [infrastructural projects]" (2015, p. 88); De Boeck has referred to infrastructure as material forms "around which publics thicken" (2012, n.p.). According to Von Schnitzler (2018), infrastructures relate populations to states as publics. As Larkin writes eloquently, infrastructures "address and constitute subjects" – railway and road networks or communication systems mobilise publics through "affect and the senses of desire, pride, and frustration" (2013, p. 329, 333). This process is not even, but inscribes social difference, for infrastructures "mediate, extend, and differentiate human life" (Anand, 2017, p. 225). Therefore, within this scholarship, infrastructure is analysed as a form of governance characterised by a heterogeneously situated, quotidian interplay between the state's development practices and its publics subjected to, as well as contesting, social, economic, and political modes of power mediated through infrastructure.

As this brief overview demonstrates, both geographical and anthropological scholarships on infrastructure predominantly focus on "citizenship" or states' "publics." These conceptual lenses function as primary vectors of socio-political belonging – either provided by the state or demanded by social contestation to be included into the national body politic – through which socio-political effects of infrastructure are analysed (e.g., Anand, 2017; Harvey & Know 2015; Fredericks, 2018; Lemanski, 2019). However, in such post-colonial contexts as Kenya, this relationship between infrastructures and citizenry cannot be taken as a given. As Zeiderman (2016) observes astutely, such notions of belonging as citizenship might result in epistemological obscurity in postcolonial societies whose histories escape inherently liberal conceptualisations of state–society relations and a discourse of rights to citizenship. In fact, in these contexts, some populations, deemed disposable, are cast outside the boundaries of one collective identity embodied in the idea of citizenship (see Chakrabarty, 2000; Chatterjee, 2011). Indeed, across Sub-Saharan Africa, historically, the right to citizenship – and "being a public" of a state's development visions and practices – has been attributed to only a part of the national population. In Kenya, for instance, during the colonial period, infrastructural developments (most prominently the Uganda Railway) were central in asserting colonial state power over the colony's population (see Clemm, 2018), differentiating it between a small minority of white citizens with state-provided access to private property, on the one hand, and native subjects explicitly excluded from citizenship and property rights, on the other (see Morgan, 1963). This colonial differentiation of life inscribed patterns of mobility that continue until today; as recent research on mega-infrastructures in Kenya demonstrates, coloniality is re-constituted through contemporary mega-projects and their racialised (Kimari & Ernstson, 2020) and extractivist logics (Enns & Bersaglio, 2020). Therefore, as Von Schnitzler (2016) argues in the context of apartheid in South Africa, infrastructures, rather than enabling and sustaining a particular public as a target of biopolitical interventions, might prevent a public from coming into being. As a result, through multiple exclusions, specific population groups are subjected to structural modalities of harm-making as anthropological literature on "infrastructural violence" demonstrates (Appel, 2012; Rodgers, 2012; Rodgers & O'Neill, 2012).

At the intersection of geographical and anthropological scholarships, in the context of the SGR development in Kenya, in the paper I analyse how infrastructure constitutes different subject positions at both techno-political and emotive levels. As Larkin observes, infrastructures "form us as subjects not just on a techno-political level but also through the mobilization of affect and the senses of desire, pride, and frustration, feelings which can be deeply political" (2013, p. 333). In other words, infrastructure – as the techno-political modality of governance that advances specific political projects and visions of the state (see Barry, 2001; Hecht, 2011; Mitchel, 2002; Von Schnitzler, 2016) – shapes the subject's life at a material level, as well as provides a

semiotic framework for the subject to make sense of her personal experience and social position within the techno-political setting of the state co-constituted by infrastructure. However, rather than focusing on "citizenship" as the main framework to analyse these experiences of subjectivisation as is prominent in the aforementioned literatures (e.g., Anand, 2017; Fredericks, 2018; Harvey & Knox, 2015; Lemanski, 2019), in this paper I show how mega-infrastructures engender subject positions of non-belonging that cannot be explained through the frames of "citizenship" or a "public." I call this subject group a "population" – people who live in a territory of the country but who, while formally being a part of the national citizenry, are not symbolically and materially included in the state's development visions and practices. Infrastructure does not relate this population to the state as its intended public: to paraphrase Marx's (1990) insights on "relative surplus populations," this subject group is superfluous to the needs of the capitalist state.

Following this conceptual separation between a "public" and a "population," I highlight how the governance of a public (as a target of state's development visions) and a population (left outside of state-led development practices) unfolds through infrastructure. Reflecting on how different social groups experience the Kenyan government's modernist vision advanced through semiotic and material forms of the SGR, I specifically argue that this mega-project functions as techno-politics of differentiation. This form of governance engenders social, political, and material alterity between "prospering publics" of urban middle classes included in Kenya's development vision, more precarious peri-urban and rural "anticipating populations" that are given unstable hopes of inclusion in the state's modernisation practices that contingently coincide with the existing local aspirations for "development," as well as "excluded populations" in rural landscapes that are denied the possibility of being a public of the national development vision. Focusing on these three categories, I simultaneously show that these subject positions are not homogeneous nor final; within each subject group there are noticeable contradictions that demonstrate an unstable nature of their subjection to a state's techno-politics. However, I argue that these potentially shifting subject positions are stabilised through one's class and geography, and in some cases ethnicity. This highlights how techno-politics of infrastructure unfolds through social, political, and material differentiation.

The paper is based on five months of fieldwork research – semi-structured and open-ended interviews, as well as informal conversations – undertaken over different time periods between November 2018 and January 2020, across multiple sites, including provincial government and Kenya Railways offices, railway stations, construction sites, and the SGR contractor compounds and offices, population settlements around railway infrastructures, in urban, peri-urban, and rural areas, and onboard train, as well as with civil society groups in Kenya. Therefore, rather than focusing on one specific site, the research was carried alongside 472 kilometres of the rail line that connects the two main SGR terminals in Nairobi and Mombasa (SGR I), as well as 120 kilometres from Nairobi to Suswa (SGR IIA), and further 112 kilometres from Suswa to Narok as a part of the SGR IIB that is to be built (see Figure 1). Methodologically, reading everyday experiences of the SGR project expressed in interviews in relation to the modernist dreams of the Kenyan state that are embodied in semiotic and material forms of infrastructure, I use three heuristic categories – "prospering publics," "anticipating populations," and "excluded populations." While complexities of each group merit further analytical attention in their own right, the paper provides these three lenses in order to highlight the techno-politics of differentiation that infrastructure constitutes; this is intended to function as a critical reflection on the (bio) politics of mega-infrastructures in Kenya and more broadly.

In the paper I first discuss how through the SGR project the Kenyan state is advancing a modernist development vision, thereby articulating imaginaries of "prospering publics" that, despite their inherent contradictions, are unevenly sustained by urban middle classes. Second, I analyse how the mega-project constitutes "anticipating populations" that are given unstable hopes of inclusion into the state's modernisation practices that contingently coincide with the existing local aspirations for "development" in urban and rural peripheries. Third, I demonstrate how the SGR developments engender a subject position of "excluded populations" in historically marginalised rural localities that, despite socio-economic differences within these landscapes, are symbolically and materially denied the possibility of being a part of the national modernist development vision. I conclude by summarising the paper's contributions to critical scholarship on infrastructure.

2 | PROSPERING PUBLICS: IMAGINED AND REAL

For Lefebvre (1991), the social and material relations of a state are vividly expressed in its infrastructures – taking an architectural-semiotic form, they denote real and symbolic power of a state to inscribe specific visions of time and progress into a physical form, thereby producing spatial configurations that allow specific socio-material relationalities to emerge, while disallowing others (also see Joyce, 2003). That is, as large-scale transport infrastructures such as the SGR are projected onto social landscapes, they materialise into an aesthetic of grandiosity that embodies imaginaries of modernity and enhanced mobility as signs of "development." Through this, infrastructures become powerful tools in enhancing the real and symbolic state

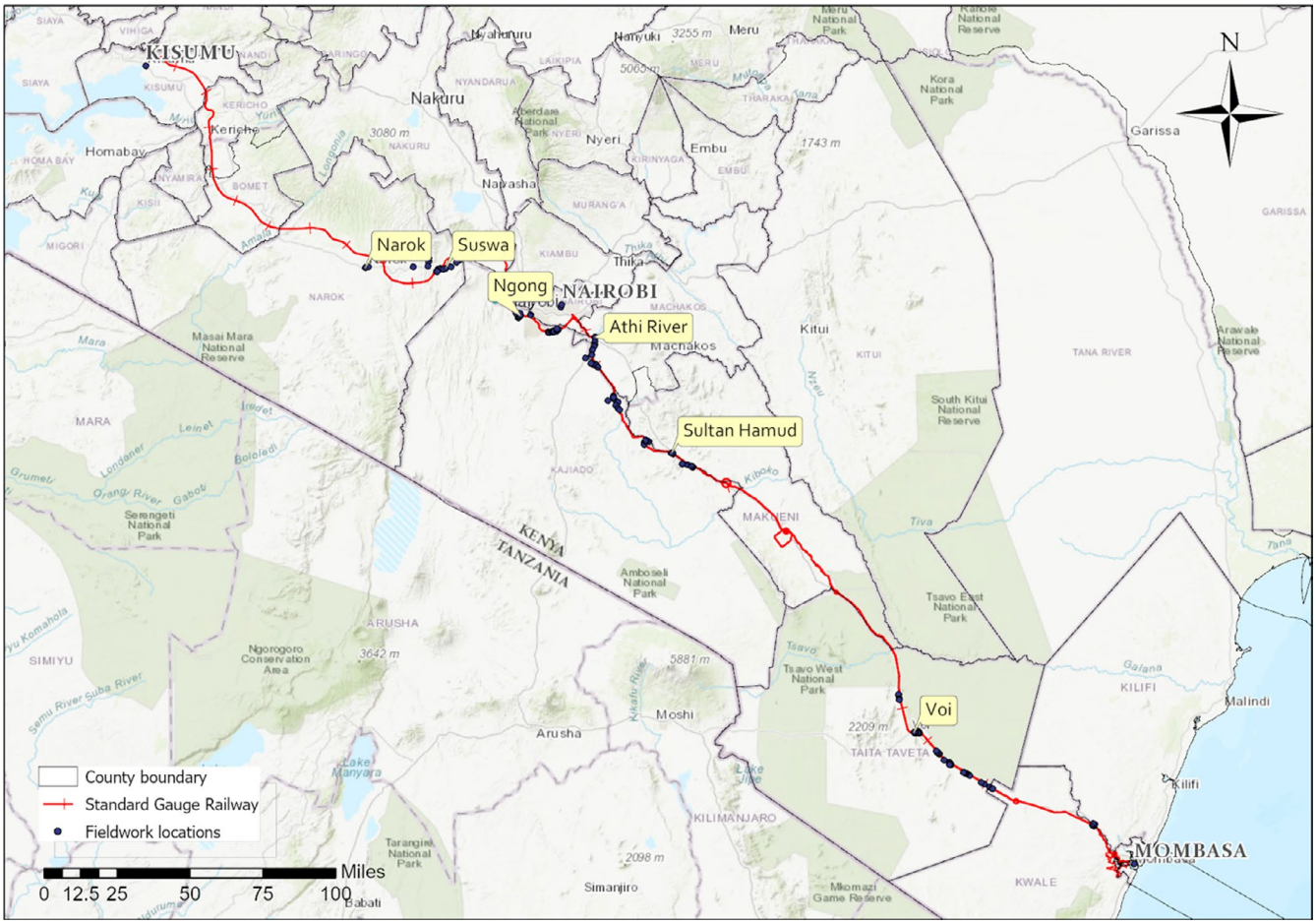

FIGURE 1 The map of SGR, and fieldwork locations (author data).

power: they facilitate regional and global flows of commodities and people, create spaces of continuous exchange, as well as incorporate local economies into global capital flows. In Kenya, the SGR rail line that starts at Mombasa on the coast of the Indian Ocean is ultimately envisioned to connect Asian commodity markets with Kisumu, a Kenyan port on Lake Victoria, and further into East Africa, particularly with Rwanda, Uganda, and South Sudan. This, in turn, is meant to enhance Kenya's strategic role in facilitating global trade across the region.

In political life, besides structuring socio-material relations and expanding frontiers of global capital (Kanai & Schindler, 2018; Lesutis, 2020; Wiig & Silver, 2019), mega-infrastructures, eliciting awe and admiration, also operate "as concrete semiotic and aesthetic vehicles oriented to addressees" (Larkin, 2013, p. 329). That is, infrastructures "also become signs and symbols" (Von Schnitzler, 2018, p. 134), and thus they have political purchase by constituting narratives of a "good life" directed to intended states' publics (Harvey & Knox, 2015, p. 5). They create imaginative geographies (Salamanca, 2015), function as "mechanisms to control time" (Graham & Marvin, 1996), instigate "waves of societal progress" (Edwards, 2003, p. 42), or "define civilization itself" (Larkin, 2013, p. 332). This is particularly so in geographies of uneven development where mega-infrastructures are perceived as prerequisite to "progress" or "modernity" (Anand, 2017, p. 14; Hetherington, 2014).

These semiotic-material forms of infrastructure are vividly expressed in the case of the SGR project that has replaced the Uganda Railway built at the start of the 20th century during the British colonisation of East Africa (see Clemm, 2018; Kimari & Ernstson, 2020). The SGR line, laid over vast tracts of land, shaping the physical matter of steel, iron, and cement into the infrastructural form of the new railway, connects different spaces – the port of Mombasa, the capital city of Nairobi, and smaller towns – into the state narrative of "development." As Kirby (1997) observes, in modern history, railways functioned as an apparatus of modernity intended to reshape experiences of space, time, and speed. In Kenya, a similar imaginary of development materialises prominently into the form of a train station, particularly the SGR line's main terminal stations in Nairobi and Mombasa, around whose material-semiotic forms the discourses of "development" and "Vision 2030" are mobilised. The first time I visited the Mombasa terminal, for instance, the station manager and one of the senior engineers of Kenya Railways, accompanying me to an air-conditioned VIP room, noted how "the [train] station itself shows the prosperity that Kenya is

striving to achieve" (30 January 2019, Mombasa). As the engineer explained further, "with the SGR, we are opening up the country. Look at these areas, there is going to be a lot of development here around this station. The potential is being brought up to the area. We are making sure that our railway stations are accessible. We are creating integrative infrastructures. There is opening for potential" (30 January 2019, Mombasa). These imaginaries of the SGR-instigated "development" reflect a broader discourse of political elites in Kenya; in the county government office of Taita Taveta, for instance, one county government officer similarly observed how the "impressive SGR developments" that "have made Voi a fast-developing town" bring substantial benefits to Kenya by "opening up the country to business and trade opportunities" (1 February 2019, Mwatate).

Because a state requires a public as an essential, constitutive part of itself as a political entity (see Comaroff, 1998; Death, 2016), narratives of "development" intertwined with the SGR also produce imaginaries of a "prospering public" that is supposed to benefit from these infrastructural developments. Echoing the objectives of "Vision 2030" narrated by the Kenya Railways engineers who translate some of the state power within socio-material landscapes of Kenya, these imaginaries focus on the mobility of *some* populations. As one engineer explained, "the SGR gave people an opportunity to join what this country has to offer. Now people can travel more easily, their mobility is facilitated, and they are *proper citizens* of this country" (1 February 2019, Voi). This narrative implies that only those who use the new train are *proper* citizens, thereby revealing the implicit normativity of the "prosperous" public imaginary emerging alongside the SGR. That is, as anthropological scholarship analyses in detail, symbolic constitution of beneficiary publics is part and parcel of techno-politics of infrastructure (Anand, 2017; De Boeck, 2012; Harvey & Knox, 2015).

However, rather than just imagined, these state-led narratives of "proper citizens" and "prospering publics" are further sustained by urban middle classes that welcome the new railway as a necessary industrial project in Kenya. Spending time in and around the SGR stations, it is common to see people taking photographs of themselves in front of railway stations. "This is the best thing that happened to Kenya, look at it – it's beautiful," exclaimed a young civil servant in the intercounty station in Voi. As the conversation progressed, he explained to me how "Kenya is no longer a third world country with too much poverty, but [instead] building such projects is a country that is becoming a modern world nation" (23 February 2019, Voi). This sentiment of national pride and praise for infrastructural developments was commonly shared by other people, belonging to urban middle classes, in different stations, or on the SGR train itself, who similarly highlighted the necessity to undertake large-scale infrastructural projects for the industrialisation of Kenya. A student group waiting to board a train in Nairobi, for instance, noted how the train "facilitates their travelling, making [them] feel like they belong to the forward direction that Kenya is taking" (18 March 2019, Nairobi). This "prospering public," both imagined and real, however, can only prosper from these developments – and thus function as the addressees of the SGR project, or Kenya's "Vision 2030" more broadly – because they have a necessary economic means to do so. The majority of the people interviewed on the train, in both 1st and 2nd class coaches, come from relatively privileged socio-economic backgrounds – including civil service or small-scale business sectors – that allow them to participate in the state's imaginaries of "development" that are articulated through the SGR project.

Although the semiotic forms of the SGR centred around the narrative of "development" and the enhanced mobility of "proper citizens" co-constitute a public that takes pride in Kenya's modernising development vision, these state-led imaginaries of a "prospering public" – and the practices of urban middle classes that partially sustain them – are undermined by strong public concerns about the financial sustainability of the mega-project. Because the overall cost of the new railway is estimated to be around US$3 billion (and the country's debt for the project amounts to roughly 66 percent of Kenya's external debt), in the public domain the project has been criticised for unjustifiably enlarging the country's public debt (see Ndii, 2019). In this context, some people in urban areas emphasise that this investment-related debt is unsustainable and thus will lead to an uncertain future; as one woman observed – "even the babies that [Kenyans] are yet to have will be paying this debt for the SGR" (10 February 2019, Nairobi). This demonstrates how unstable the imaginary of a "prospering people" is – for Kenya's public debt undoes the possibility of the material prosperity promised by the SGR developments. In this context, those who truly benefit from the new railway, at least in material terms, are national political elites. This group, since Structural Adjustment implementation in the late 1980s, has been responsible for diverting capital to the private sector, facilitating privatisation of national industries, and providing huge tax benefits to foreign direct investment: this unevenly integrated Kenya's economy into international commodity and finance flows, as well as anchored these national elites in global capital circuits and constituted clientelist networks (see Harrison, 2005; Lehman, 1990; Rono, 2002). In this context, reflecting the pre-existing dynamics of extractivism and national elite collaboration (see Enns & Bersaglio, 2020; Kimari & Ernstson, 2020), such mega-projects as the SGR, with huge public debt, provide new opportunities to re-affirm class power and clientelist networks across Kenya.

However, in spite of these dynamics, the relatively privileged class position of urban train users, as well as their symbolic and material inclusion into the national modernist vision, contingently stabilise the meaning of the SGR project as a sign of

"development." "It's impossible to develop without loans – loans are issued everywhere in Europe, so why shouldn't we do it here?" asked one office clerk rhetorically while travelling from Mombasa to Voi (18 February 2019, Mombasa). These narrative articulations show that the semiotic forms of the SGR, while not homogeneous or unchallenged, nevertheless constitute a public that partakes in producing the discourse of "development" constructed around and through the SGR. Even if not necessarily prospering in material terms as national political elites, this subject group forms a part of the state's modernising development vision and practices. As I discuss in the following section, these imaginaries of "prospering publics" are partially sustained, albeit in profoundly uncertain ways, by more precarious populations in urban peripheries and rural localities across Kenya.

3 | ANTICIPATING POPULATIONS – NOT (YET) PUBLICS

Even though infrastructures might engage populations in a state's development visions and practices, and thereby symbolically and materially constitute them as *publics* or *citizens*, in the context of the SGR, infrastructures also engender an ambiguous subject position of socio-political belonging. I call it an "anticipating population" that is not yet, or might never be, included in state-led modernisation. The existing anthropological literature on social effects of infrastructure in Kenya (Chome, 2020; Elliot, 2016; Kochore, 2016) and beyond (Haines, 2018; Hetherington, 2014) focuses on "economies of anticipation" that emerge alongside planned development projects. In Kenya, anticipation has been demonstrated to result in a number of strategies of trying to insert oneself into state-orchestrated development practices, particularly through land speculation (Chome, 2020; Elliott, 2016; Kochore, 2016). In such contexts, the goals of "modernity" or "development," although directed by the central state, are not opposed but supported as long as they provide beneficial forms of inclusion into the planned developments. Therefore, state-led development visions are not necessarily external to, but form a part of, local histories and aspirations. In this section, focusing on temporalities of the *now* and of the *future*, I diverge from these existing literatures on infrastructural anticipation, and show that, rather than just a speculative strategy of future-making, *anticipation* more generally describes a precarious subject position of trying to be included in already ongoing development projects, however unstable, or even unattainable, that inclusion might be.

In Kenya, the construction of the SGR project triggered anticipation for "development" in the rural areas that the railway traverses. The building of the 592-kilometre railway line (Phases I and IIA) required a significant labour force; according to Kenya Railways, the project contractor – China Road and Bridge Corporation (CRBC) – hired around 25,000 Kenyans for manual construction work, thereby providing previously absent employment opportunities. In the county of Taita Taveta, for instance, in the 49.2 kilometres between Miaseny and Voi train stations, the SGR construction generated an enormous interest in employment. Several years after the railway completion, local residents continue to share stories of how when the CRBC started its operations, people lined up in queues waiting to be contracted for work. In such rural areas characterised by poverty, formal employment is a significant opportunity to relieve existing everyday hardships and, for instance, pay school fees or one's debts, buy more nutritious food, or upgrade existing housing infrastructure. Despite numerous allegations of exploitation and harsh treatment of manual labourers that abound in Kenya's public space (see Plummer, 2019), residents of Taita Taveta recount their employment experiences in positive terms. As one woman explained, "the work was really hard, but it was really helpful. With the 500 shillings I received every day, I could pay school fees for my children" (19 February 2019, Maungu).

Besides formal employment, the SGR also generated other economic opportunities to benefit from the railway construction. Once it commenced, informal economies emerged to provide construction workers with food, water, housing, and other services. In Taita Taveta, for instance, the village of Bachuma popped up within the first month of the railway construction, as some people who had already lived in the area moved closer to the rail line to provide necessary services to the SGR project contractor. This boosted local small-scale business activities. I observed a similar dynamic along the rail line of Phase IIA between Nairobi and Naivasha, which was under construction during the time of the research (March–May 2019) where several villages, such as Duka Moja or Kimuko (both in Kajiado county), had grown in size due to the incoming labour force and booming economic activities related to the SGR construction.

These opportunities inevitably have an expiry date. The project contractors, once a part of the railway is built, leave the area, thereby putting an end to the hopes of "development." This can be observed in the aforementioned village of Bachuma, whose residents, after the SGR completion, are now struggling to make ends meet. "This train has given us life, but it has also taken it away," observed one man who now has lost all his clients for his drinks shop (19 February 2019, Taita Taveta). Alongside Phase IIA of the SGR that was being built at the time of the research, some workers were equally aware that the opportunities provided by the railway construction were temporary. One young man employed as a driver described the relation between the local labour force and the CRBC in the following way:

> "I understand that these work opportunities are not going to last. If [CRBC] were serious about helping us, they would train us, they would give us skills how to continue. But now many people who are casual labourers will be made redundant, this is just how it is. I thought that they would do something to empower the youth, will show us how to do business, but now they are just using us for cheap labour." (8 March 2019, Kimuko)

These individual narratives reflect more widely shared concerns about the socio-economic sustainability of the SGR project and the sense that it has not provided enough skill transfer in engineering and construction sectors for the Kenyan labour force (see Plummer, 2019).

However, as anticipations for "development" inevitably expire in these disadvantaged rural localities, the SGR development simultaneously activates hopes for socio-economic prosperity in urban peripheries where local actors try to integrate themselves in the new transportation system. Like with land speculation in other parts of Kenya (see Chome, 2020; Elliott, 2016), in the areas close to the new train stations some residents are constructing rental houses in anticipation of future urban growth to be triggered by the new railway. For now, some of these houses are rented by the SGR management and maintenance workforce. In Voi, for instance, in the areas around the train station, rental housing prices increased by 15 percent after the completion of the mega-project, and some people started renting out their houses to newcomers to make a profit. These processes also led to increasing land value. In Suswa, for example, which is relatively close to Nairobi and the existing CRBC compounds, there has been a sharp rise in local land value; at the time of the research when the Suswa SGR station was nearing completion (May 2019), land cost increased fivefold (from one to five million Kenyan shillings per acre of serviced land).

The completed SGR train stations also present opportunities for other local-scale economic activities such as transportation. When the train arrives, the main SGR terminals in Nairobi and Mombasa are quickly overcrowded with buses and taxis to be boarded by train passengers. Similarly, in some intercounty stations such as Voi in Taita Taveta, already at the intersection of the existing busy trade and travel routes between Kenya and Tanzania, as well as a gateway to Tsavo East National Park, the new train contributes to the increasing flow of travellers. Twice a day, when the intercounty train passes the area, the parking space next to the train station fills with tuk-tuk, boda-boda, and taxi drivers who compete with each other for passengers alighting the train. In this context, these young men perceive the SGR as a positive development, expressing their wishes of having more frequent passenger trains that would bring them customers. In highly precarious peri-urban milieus where they constantly have to eke out a living, the train passengers are a means to become a part of the SGR infrastructures. As Simone (2015) observes, in such situations social relations gain infrastructural properties: they substitute and complement the existing limited infrastructures, as well as create continually shifting operational spaces in which one can participate, albeit in uncertain ways, in the modernist development vision of Kenya.

These processes, besides providing new livelihood opportunities also activate broader expectations and hopes for "development" that contingently coincide with the national modernist project expressed in "Vision 2030." The taxi drivers in Voi, for instance, see their town as a rapidly developing place. As one tuk-tuk driver recounted, "Voi is currently a metropolitan town. Most tribes are here, they are really developing the town. In the years to come, this town will be a great place to do business" (23 February 2019, Voi). These processes instigate anticipations of "development" in Kenya at large, for they particularly trigger expectations of connectivity and mobility that are perceived as signs of future prosperity and abundance. As the same man noted, "[people] are waiting for the railway line to Kisumu, we will get fresh fish from the Lake Victoria. It will develop Voi and it will be a great town, it is already happening" (23 February 2019, Voi). This narrative articulation highlights how the SGR project configures "anticipating" populations whose expectations for a brighter future extend beyond the boundaries of their environs into larger socio-material constellations of national "development."

This anticipation to be included in the modern Kenya is not only rendered unstable by the temporary nature of the SGR economic boom associated with its construction, but is also rendered fragile by the broader political economy of global finance. The plan to extend the train line from Naivasha to Kisumu on the eastern shore of Lake Victoria (and further into East Africa) – Phase IIB of the Kenyan SGR – was put on hold in May 2019 due to lack of funding from EXIM, thereby questioning the viability of the whole SGR project (see Ndii, 2019). However, as this section demonstrates, in spite of this instability, the SGR infrastructures constitute "anticipating populations" that are trying to be a part of the national infrastructure development that had already materialised but is yet to bring prosperity. Through anticipation – as a mode of orienting one's livelihood practices in relation to the newly built infrastructures – these populations contingently fit into the modernist vision of the Kenyan state. Due to the inherently precarious nature of this subject position characterised by unprivileged class position and relatively marginal geography, these groups are not yet the "prospering public" conjured up by the Kenyan state alongside the SGR line. In fact, they might never become that public, for their attachments to the mega-project and the state-led modernist vision of "development" are only sutured by limited possibilities to participate in the infrastructural present that is fundamentally precarious. This unstable subject position, therefore, might be experienced as symbolic and material exclusion, as I discuss next.

4 | EXCLUDED POPULATIONS: MODES OF NON-BELONGING

While infrastructural projects generate prospects of "prosperity," their development also engenders social exclusion, vulnerability, and destabilisation. As Rao summarises eloquently, "to talk about infrastructure is to invoke both the promise of a future as well as imminent trauma" (2015, p. 39). In Kenya, this infrastructural trauma has manifested as a material and symbolic exclusion of rural populations from modernist visions and practices. Even if the Kenyan state mobilises the narrative of "prospering people" that is partially supported and sustained by the urban middle classes, and even if these dynamics might give unstable hopes of inclusion into the national development vision to the "anticipating populations" in peripheral areas, in this section, looking beyond these dynamics, I examine how the SGR constitutes "excluded populations" that do not count as a public of Kenya's development vision. In contrast to the literatures that, in contexts of infrastructure-produced marginalisation, focus on different articulations of citizenship that emerge through contestations of this exclusion, whether through everyday modalities of resistance (Anand, 2017; De Boeck, 2012; Harvey & Knox, 2015; Lemanski, 2019) or more explicit political forms of mobilisation (Fredericks, 2018; Von Schnitzler, 2016), I show that in Kenya the SGR denies a specific subject group the possibility of becoming a *public* of the national development vision by symbolically and materially excluding it from mega-infrastructures.

The Kenyan SGR project realisation has been characterised by the disruption of socio-material landscapes, which is particularly visible in relation to land. According to the Constitution of Kenya, national interest – such as mega-projects that are deemed fundamental to the development strategy "Vision 2030" – supersedes any private interests. Therefore, when these projects pass private lands, individual households need to accept financial compensation and relocate. In this context, the SGR project-implementing national actor, the Ministry of Transport, Infrastructure, Housing and Urban Development, requested the National Land Commission to carry out land evaluation and compensation in order to facilitate the population relocation that was necessary for the SGR project. However, the land values prescribed by the Commission were challenged for being too low by numerous individuals, which has resulted in a plethora of ongoing litigation cases on corruption. Relatedly, there have been other court cases arising due to a number of households without official land titles not receiving any compensation for the land availed to the railway project.

These uneven processes of relocation and land compensation reflect broader dynamics of contemporary development patterns across Sub-Saharan Africa that, based on land enclosure, enhance socio-economic differences (Kirshner & Power, 2015; Lesutis, 2019). Despite the allegations of corruption, individuals with large land-holdings and secure land titles received sizeable financial compensation, with some reaching nearly 30 million Kenyan Shillings (more than US$280,000). With these financial resources, these individuals upgraded or built new houses, fenced their lands, or invested in real estate in peri-urban areas. Therefore, due to the SGR construction and the associated financial compensation, the socio-economic position of large-scale land holders was significantly enhanced. This, however, was not the case with poor households with insecure land titles and small-scale land holdings, ranging from one to three acres, that were only compensated for housing structures that needed to be relocated due to the SGR construction; as a result, these families, having not received any financial compensation, were made land insecure by the SGR developments. As one woman observed, "I lost the land that I lived on because of the train. Because I am poor, I did not receive anything. It is only the rich who get money out of this train" (28 February 2019, Mtito Andei).

In spite of these variations in the financial compensation that accentuate the existing socio-economic differences, the SGR has excluded rural populations from the state's development visions irrespective of one's socio-economic position. This can be understood by looking at the material form of the railway infrastructures; as Harvey and Knox (2015) observe, infrastructure registers the state presence or neglect, around which public expectations are built (also see Anand, 2017; Larkin, 2008). The SGR is a railway with a track gauge of 1,445 mm (4 feet 8½ inches) that significantly alters material landscapes. Even though the new railway generally runs parallel to the colonial Uganda Railway, it has a straighter track alignment that accommodates higher speed. Due to the hilly terrain, this alignment could only be achieved by building the SGR on viaducts, embankments, and through cuttings. Therefore, unlike the existing transportation routes such as the Nairobi–Mombasa Road or the Uganda Railway which were built at ground level and so collisions with wildlife, livestock, and people are common, viaducts (as high as 43 metres) and embankments (as high as 27 meters) elevate the SGR above ground level.

According to both Kenya Railways and the project implementing contractor CRBC, these underpasses allow humans, livestock, and wildlife populations to safely pass underneath the SGR line, which conclusively shows that the railway intersects with the pre-existing landscapes in a socially and environmentally sustainable way. As one Kenya Railways engineer explained, "a project like SGR cannot go through if we do not get the approval from the specific government ministries. The construction was done by the law, and we had an official license from NEMA" (31 January 2019, Nairobi). However, even if such

mega-investments as the SGR project are legally required to undertake environmental and social impact assessments that must be approved by the National Environment Management Authority (NEMA) before they commence, the actual dynamics on the ground are different. According to community leaders in the rural localities traversed by the SGR, this legally required public consultation was extremely low through all stages of the project. As one village secretary observed, "we know nothing about the SGR. They do whatever they want, and we just have to stand and watch what is happening to our environment" (4 May 2019, Kima, Kajiado).

Relatedly, civil activists highlight that in remote rural areas, whose people have little or no political influence, public consultation was not carried out at all. In the best-case scenario, rather than being consulted about potential social, economic, and ecological impacts, affected populations were informed about the SGR arrival. This usually happened in a one-off community meeting, where government officials presented the upcoming project to village elders. These presentations were dominated by narratives of a "better life," "development," and "life-long employment" that were used to convince these communities to support these investments. If this discourse was challenged by community representatives, or civil society groups, they were labelled as "anti-development" to undermine their legitimacy. This resonates with broader national dynamics of framing dispossession and other negative accumulative effects of development projects as necessary to "give way to development" (Kanyinga, 2000, p. 6). It also highlights the exclusion of these populations from national legal frameworks of governance. As one civil activist observed, "the problem with [mega-projects in Kenya] is that they are not done according to the law, and that they do not include local communities. People are left out, as if they were outside the law, as if they were not supposed to be properly presented by the national law of Kenya" (3 January 2020, Lamu). In other words, these marginal population groups are governed by their exclusion from the national modernist development vision and its practices.

The end result is that mega-infrastructures are built in a way that negatively interferes with local lifeworlds. In anthropological literature, these dynamics that result in neglect, abandonment, and everyday hardship are perceived as modalities of structural violence that are inflicted on those excluded from infrastructure networks of mobility and opportunity (see Appel, 2012; Rodgers, 2012; Rodgers & O'Neill, 2012). Reflecting these dynamics, in the historically marginalised rural localities that the SGR passes, people point out how the railway, cutting customary road access routes, physically splitting villages, or even family lands, interrupts local socio-material orders and contributes to everyday hardships. According to several community leaders:

> "During the construction stage there was no [mutual understanding or] government representatives, so the contractors could do anything they wanted, and they tried to save money, so they cut corners. They [did not] care about people or environment here. They just left when they were done. People are now enclosed within their own land, they are landlocked here." (5 March 2019, Kima, Kajiado)

In a similar way, several Kenya Railways community liaison officers noted that the SGR design ignored local social dynamics and mobility patterns because it was developed by the main project contractor in China. As one of them recounted:

> "We didn't really ask what these local communities really want and how they see the development going for them. Before we reached them, everything was already decided – the railway route, the bridges, the underpasses. All of that was done. The instruction for us was to get the community on board, so they [do not] oppose the project, and [do not] cause us problems later." (15 February 2019)[2]

Therefore, as there was no meaningful community consultation about the SGR design, the project contractor did not provide underpasses where they were needed to minimise the negative impacts of the railway project, thereby resulting in a number of everyday difficulties for the surrounding populations that I outline above.

With the SGR negatively interfering with the social topographies of everyday life, for wealthier land-holders the new railway causes resentment, for, dividing the landscape and interrupting mobility patterns, the project marginalises them. Their livelihoods are not integrated into national value chains developed through the railway that facilitates other forms of mobility – namely, of transnational capital and relatively privileged urban classes, as I discuss in Section 2. In this context where the SGR does not directly include them into the national modernist vision of "development," some of these land-holders indicate that, unlike the old colonial railway that had a higher number of intercounty stations (34 in total), the current Phase I of the SGR, with fewer of them (7 between Mombasa and Nairobi), is much more difficult to use. "These stations are not for us. There is no development that the SGR is going to bring to us. We are not expecting anything. Nothing. They have just misused our land" (11 March 2019, Athi River). Therefore, even if some of these wealthier land-holders could be seen as enhancing their socio-economic position due to the significant financial compensation for their land, their lives, nevertheless, are challenged by the SGR presence, which they are keen to first highlight in fieldwork encounters. The benefits of the financial compensation,

on the other hand, are not given much importance, for in these lifeworlds the value of land cannot be equally substituted with financial compensation. As one man explained, "Once you lose your land, it's forever. There is nothing like land. So once you lose your land, you are done" (5 March 2019, Kitingela, Kajiado).

These everyday narratives demonstrate how the SGR functions as the techno-politics of differentiation that denies one's place in the "developed" Kenya that is vividly envisaged in the modernist "Vision 2030." It marginalises those who, due to their livelihood practices dependent on land, are not only excluded from the development vision in any meaningful way, but are also disadvantaged by the materiality of mega-infrastructures. Although this dynamic is expressed differently along the lines of class within rural localities, these differences are stabilised by the shared experience of exclusion from the national modernist vision, as well as by other social-political modalities of belonging. This particularly concerns ethnicity, which in Kenya – despite its fundamental re-negotiability in relation to dynamically changing socio-political relations (see Lynch, 2006) – functions as a significant marker of social identity, particularly in relation to land and territory (see Jenkins, 2012). In the context of the SGR, Maasai men, for instance, see their exclusion from the railway mega-project as primarily based on their historical marginalisation by the central state dominated by Kikuyus within the national ethno-regional settlement. As one of them noted, "this train is for the Kikuyu government. […] It is for the children of Kikuyus who go to China to train and then get jobs. Go to the [SGR] train stations, nobody from our lands work there" (14 March 1990, Kima, Kajiado). As Lynch (2006) has argued in other contexts of Kenya, a sense of marginalisation often results in a further assertion and articulation of ethnic differences between communities. This, as Chome (2020) and Elliot (2016) show, has been prominent in several regions of Kenya where new investment projects re-activate ethnic binaries between autochthonous "host" populations and newcomer "guests"/"immigrants." In the case of the SGR, for the social groups symbolically and materially excluded from the modernisation processes that the mega-project advances, the railway becomes a material site through which one's marginalised place in Kenya is evaluated. This dynamic, intersecting with the relations of class and ethnicity across rural topographies, I argue, constitutes a subject position of "excluded populations" denied the possibility of being a public of the national modernist development vision and its practices.

5 | CONCLUSION

In this paper, focusing on the semiotic and material forms of the SGR project in Kenya, I discussed how mega-infrastructures function as the techno-politics of differentiation that governs national populations by relating them to state-led development visions and practices in uneven, contradictory ways. Rather than conjuring up a "prospering people" as the intended public of the state, the SGR project reiterates the pre-existing relations of alterity, differentiating between the *publics* included in, and the *populations* excluded from, the state's modernist development vision and practices, as well as unstable subjective dispositions in-between, particularly mediated by class and geography, and ethnicity. I demonstrated how these processes unfold by discussing how, through the new railway infrastructures, Kenya is advancing a modernist development vision, thereby producing imaginaries of "prospering publics" that, despite their inherent contradictions, are sustained by urban middle classes. Although not thoroughly fitting the category of the intended state's public, this dynamic is also fragmentedly embodied by more precarious "anticipating populations" in rural localities or urban peripheries where the state-led modernisation practices contingently coincide with the existing local desires for "development." However, other rural populations, particularly from historically disadvantaged ethnic groups, having lost their land and being negatively impacted by the new railway, are materially and symbolically excluded from these infrastructural developments and thus, rendered "excluded populations," are denied the possibility of being a "public" of the national modernist development vision.

Focusing on these three different modalities of (non)belonging, the paper simultaneously underlines that these subject positions are not homogeneous or final. Within each group there are noticeable contradictions that demonstrate an unstable nature of their subjection to the techno-politics of differentiation unfolding through the SGR mega-project. This means that subject positions will shift from "anticipation" to "exclusion," once hopes for development dissipate. Depending on possibilities of political mobilisation, some groups will also actively challenge their marginalisation, through available means attempting to insert themselves into national development visions and practices (see Sulle, 2020) and protect local elite interests (see Cormack, 2016) as research in the region demonstrates (see Enns & Bersaglio, 2020). In northern Kenya, for instance, pastoralist groups, neglected by the state's mega-projects, have been successfully defending their land rights through regional court systems, thereby preventing their exclusion from "Vision 2030" (Enns, 2019). Such modes of contestation, as I indicated in Section 4, have also been triggered by the SGR, with many individuals legally challenging the National Land Commission for inefficient financial compensation processes, this way resisting their subjection to material and symbolic exclusion from the state's development practices.

Methodologically, the subject positions of "prospering publics" and "anticipating" or "excluded populations," emerging in fieldwork encounters, should not be understood as conclusive representations of the heterogeneous lifeworlds that the SGR comes in contact with. Instead, they should be read as contingent articulations of oneself that unfold through implicit negotiation processes between a researcher and a research participant that are simultaneously embedded in broader socio-political and material contexts (see Lesutis, 2018). While the positionality of a researcher influences how different groups narrate their experiences of infrastructure, their subject positions, rather than only being time- and space-specific articulations of oneself, also function as micro lenses into larger socio-material processes that unfold beyond any individual's control or influence. Therefore, "prospering publics," "anticipating," or "excluded populations" are heuristic categories (and thus unavoidably limited approximations to the social textures of everyday life co-constituted by the SGR) that I employ to highlight how the techno-politics of infrastructure unfolds through differentiation mediated by class, geography, and ethnicity. Acknowledging the inherent instability of these subject positions – and of their conceptualisation – I read their discursive articulations as social texts in relation to the modernist dreams of Kenya expressed in the semiotic and material forms of the SGR infrastructures, thereby demonstrating an intimate relationship between infrastructure, governance, and biopolitics.

Developing these analyses, the paper makes several contributions to geographical and anthropological literatures on socio-political effects of infrastructure. First, it highlights how, besides ordering capitalist spaces and territorialities (Kanai & Schindler, 2018; Lesutis, 2020; Wiig & Silver, 2019), mega-infrastructures also govern social life through socio-political and material differentiation. This dynamic of how infrastructures subjugate, configure, or articulate different subject groups, besides a few exceptions – notably Graham and McFarlane (2015), Fredericks (2018), Lemanski (2019) – is yet relatively unexplored in geographical research on infrastructure. Second, the existing scholarship on social and political lives of infrastructure predominantly focuses on citizenship (Fredericks, 2018; Lemanski, 2019), or a public (Anand, 2017; De Boeck, 2012; Harvey & Knox, 2015; Von Schnitzler, 2018), as modes of relationality between the state and its publics constituted by techno-politics of infrastructure. This paper contributes to these literatures by discussing specific modalities of socio-political differentiation that cannot be readily explained through such liberal concepts as *citizenship* or *public*, and instead shows how a biopolitical boundary between an intended *public* of the state and *populations* excluded from the state's development visions and practices is reconfigured through infrastructure.

Regarding Kenya-focused research on mega-infrastructures, the analyses provided in this paper are situated at the intersection of critical geographical scholarship on global infrastructural politics (Enns & Bersaglio, 2020; Kimari & Ernstson, 2020; Lesutis, 2020) and area studies research on lived, embodied experiences of mega-projects (Chome, 2020; Elliott, 2016; Kochore, 2016). Demonstrating how socio-political differentiation is constituted through mega-infrastructures, this paper contributes to further understanding how global political projects – such as neo-colonial reiterations of empire (Enns & Bersaglio, 2020; Kimari & Ernstson, 2020) or capital's expansion (Lesutis, 2020) advanced through mega-infrastructures – unfold in politically, socially, and materially mediated ways across Kenya. Focusing on how structural relations of power are experienced along the lines of class, geography, and ethnicity, the paper echoes ethnographically grounded case studies of embodied effects of large-scale infrastructures across Kenya (see Elliott, 2016; Kochore, 2016). While it does not explicitly look at the agency of excluded population groups to resist the state's practices of "development" as recent work on mega-projects explores (e.g., Chome, 2020; Cormack, 2016; Enns, 2019), like this scholarship, the analyses of multifariously experienced mega-infrastructures demonstrate that, besides re-constituting grand visions of "development," capital's expansion, or empire, these projects also unfold as profoundly intimate relationalities of power through which life is made liveable or disavowed to precarity in contradictory ways. The unevenly mediated nature of these infrastructural experiences foregrounds the utility of such heuristic framework as the one developed in the paper in understanding techno-politics of infrastructure and biopolitical modalities of governance that they imbue.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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ENDNOTES

[1] Phase IIB, supposed to reach Kisumu by Lake Victoria, has been put on hold due to the lack of funding, as discussed below.

[2] The interview location that coincides with the location where this officer had worked is excluded to guarantee anonymity.

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